Outreach Education

Black Canyon of the Gunnison National Park
Curecanti National Recreation Area

National Park Service

Grade 3, Pre-Visit Activity, "Dams"

Name: _____

DAMS

Instructions: Read the story and the sentences that follow. In the blanks, fill in either "humans" or "beavers." Review the vocabulary words on the back of the sheet.

Beavers and humans build dams. Beavers build low dams with sticks, branches, and mud. Humans use earth, rock, and concrete to build very high dams. Beavers build a stick lodge right next to their dam. Humans build a hydroelectric plant next to their dams. The dam and lodge protect the beaver from its predators. Human dams protect people from floods and provide water for irrigation.

Dams and lodges built by _____ provide protection from their predators.

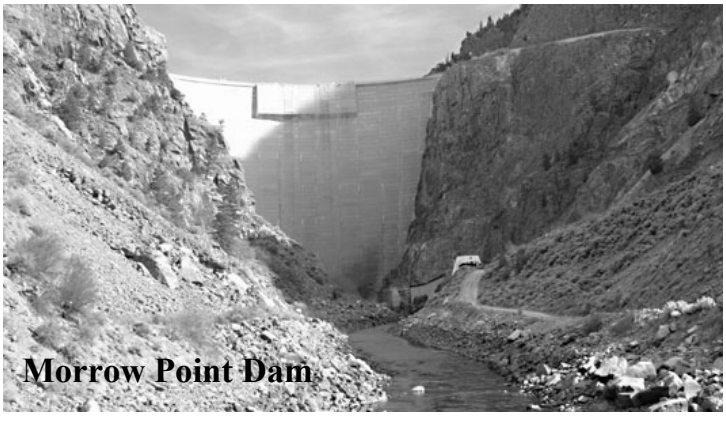
Some dams built by _____ generate hydroelectric power.

Dams built by _____ are constructed using sticks, branches, and mud.

Dams built by _____ can be higher than 10 school buses stacked on end.

Dams that provide water for irrigation are built by _____.

_____ live in a lodge next to their dam.



Morrow Point Dam

Grade 3, Pre-Visit Activity, "Dams"

Name: _____

Vocabulary

Dredge: Used to gather material such as sand, silt, and mud from the bottom of a river

Fossil fuel: A naturally occurring fuel such as coal or natural gas formed from remains of prehistoric organisms

Generator: A machine that converts one form of energy into another

Hydroelectric: The power that is generated through a dam is called hydroelectric power.

Power plant: A building necessary for the generation of power

Sediment: Materials like sand, silt, and clay that settle to the bottom of a liquid

Turbine: A machine with blades that spins from the pressure of a moving material (steam, water, air)

Grade 3, In-Class Activity, "Dams"

Name: _____

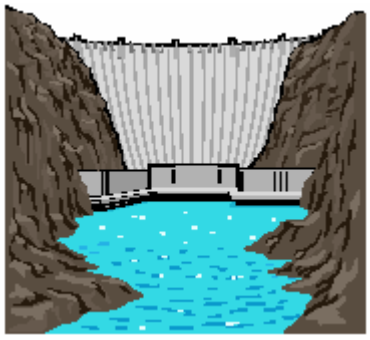
Hydroelectric Energy

Although dams alter the ecology of a river, hydroelectric energy is one of the cleanest, non-polluting methods of producing power.

The generator that is used to produce hydroelectric energy is a machine that changes mechanical energy into electrical energy. Hydroelectric energy is created by the force of water flowing from a higher level, usually a reservoir or lake, through an enclosed pipe called a penstock. The falling water rushes through the penstock and drives the blades of the turbine creating mechanical energy. The turbine blades are connected to a shaft that turns the generator. The generator has a set of wire coils that pass through a magnetic field changing the mechanical energy into electrical energy. The electricity is then carried over transmission lines to where it is needed.

After having done its job of turning the turbine blades to generate power, the water flows down river and is used for drinking, agriculture, recreation, and wildlife.

On many rivers the same water flows from one reservoir with its generators to another reservoir with generators where it is used again to generate hydroelectric power.



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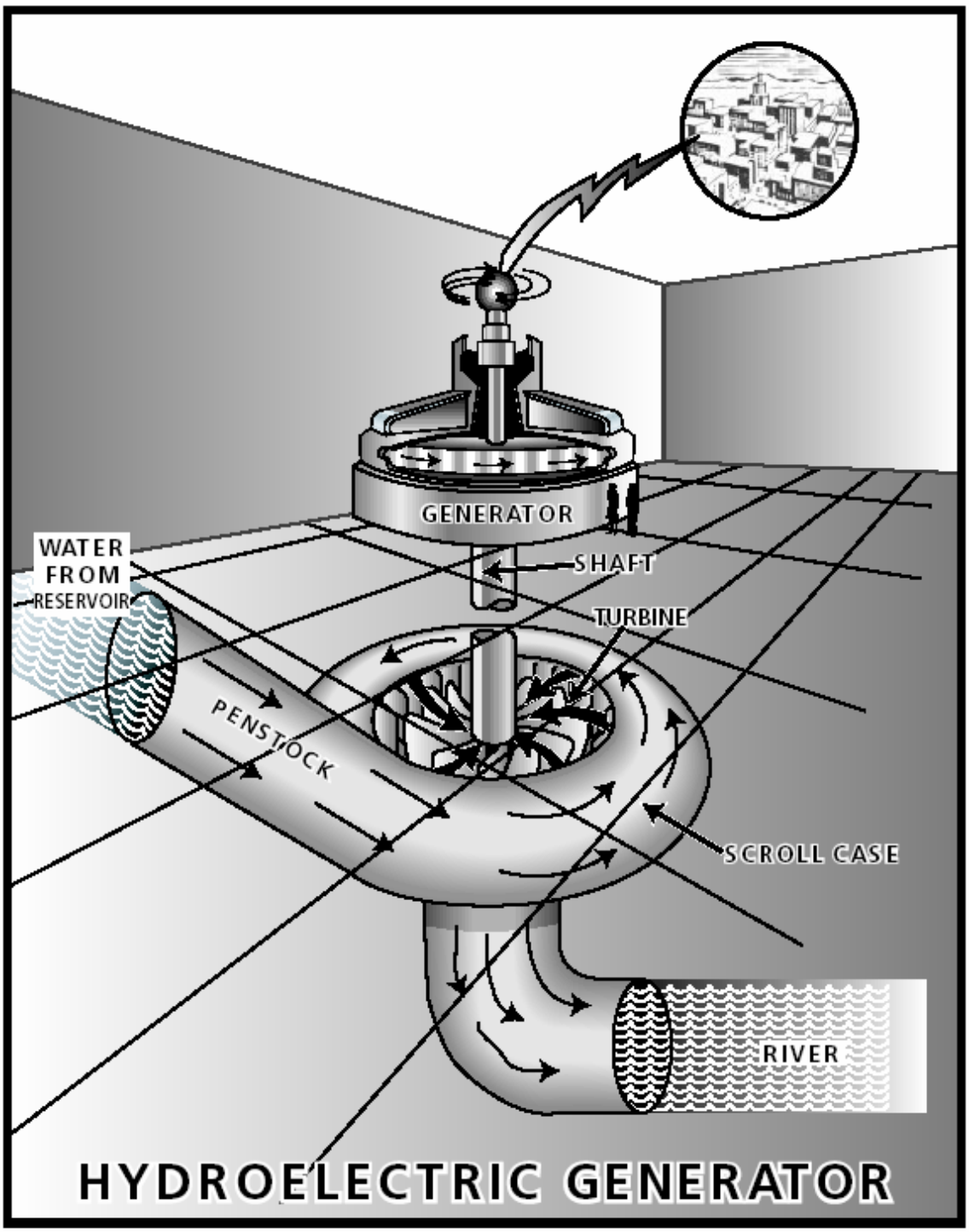
Grade 3, In-Class Activity, "Dams"

Name: _____



Courtesy of U.S. Department of Interior Bureau of Reclaimation

Outreach Education

Black Canyon of the Gunnison National Park
Curecanti National Recreation Area

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Grade 3, Post-Visit Activity, "Dams"

Name: _____

DAMS

1. Human-made dams create large water storage areas called:
    a. lakes
    b. ponds
    c. reservoirs

2. Some dams generate:
    a. nuclear power
    b. hydroelectric power
    c. solar power

3. Beaver dams are found in:
    a. creeks
    b. oceans
    c. waterfalls

4. In the spring, dams help prevent:
    a. tornados
    b. flooding
    c. earthquakes

5. Beaver and human dams can change other animals':
    a. habitats
    b. diet
    c. fur color

Describe three ways in which man-made dams and those constructed by beavers are similar:

1. _____

2. _____

3. _____